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PTO/SB/21 (09-04)

# TRANSMITTAL FORM

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Total Number of Pages in This Submission

7

Application Number

10/693,180

Filing Date

October 24, 2003

First Named Inventor

Sugimoto, Shuji

Art Unit

2835

Examiner Name

Michael V. Datskovskiy

Attorney Docket Number

16869K-098600US

## ENCLOSURES (Check all that apply)

☐

Fee Transmittal Form

☐

Fee Attached

☐

Amendment/Reply

☐

After Final

☐

Affidavits/declaration(s)

☐

Extension of Time Request

☐

Express Abandonment Request

☐

Information Disclosure Statement

☐

Certified Copy of Priority Document(s)

☐

Reply to Missing Parts/ Incomplete Application

☐

Reply to Missing Parts under 37 CFR 1.52 or 1.53

☐

Drawing(s)

☐

Licensing-related Papers

☒

Resubmission of Petition to Make Special

☐

Petition to Convert to a Provisional Application

☐

Power of Attorney, Revocation Change of Correspondence Address

☐

Terminal Disclaimer

☐

Request for Refund

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CD, Number of CD(s) \_\_\_\_\_

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Landscape Table on CD

☐

After Allowance Communication to TC

☐

Appeal Communication to Board of Appeals and Interferences

☐

Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)

☐

Proprietary Information

☐

Status Letter

☒

Other Enclosure(s) (please identify below):

Return Postcard

Copies of Express Mail Label, Returned Receipt Postcard, Transmittal Form and Fee Transmittal, *Petition*

Remarks

The Commissioner is authorized to charge any additional fees to Deposit Account 20-1430.

## SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name

Townsend and Townsend and Crew LLP

Signature

*Chun-Pok Leung*

Printed name

Chun-Pok Leung

Date

February 1, 2005

Reg. No.

41,405

## CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below.

Signature

*Joy Salvador*

Typed or printed name

Joy Salvador

Date

February 1, 2005



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

SHUJI SUGIMOTO et al.

Application No.: 10/693,180

Filed: October 24, 2003

For: STORAGE DEVICE  
CONTROLLING APPARATUS  
AND A CIRCUIT BOARD FOR  
THE SAME

Customer No.: 20350

Examiner: Michael V. Datskovskiy

Technology Center/Art Unit: 2835

Confirmation No.: 2603

**RESUBMISSION OF PETITION TO  
MAKE SPECIAL FOR NEW  
APPLICATION UNDER M.P.E.P.  
§ 708.02, VIII & 37 C.F.R. § 1.102(d)**

**MAIL STOP PETITION**

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

The enclosed Petition to Make Special was filed on July 22, 2004. Also enclosed is a copy of the Express Mail label stamped July 22, 2004, the return postcard stamped July 22, 2004, the Transmittal Form, and the Fee Transmittal.

The Petition has not been entered according to Patent Application Information Retrieval (PAIR).

In view of the foregoing, Applicants respectfully request entry of the Petition and issuance of a first Office Action at an early date.

Respectfully submitted,

Chun-Pok Leung  
Reg. No. 41,405

TOWNSEND and TOWNSEND and CREW LLP  
Two Embarcadero Center, 8<sup>th</sup> Floor  
San Francisco, California 94111-3834  
Tel: 650-326-2400; Fax: 415-576-0300  
Attachments  
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PATENT & TRADEMARK



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## FILING ACKNOWLEDGMENT

Mailing Date: July 22, 2004 Express Mail No. EV 530884839 US  
Atty. Docket No.: 16869K-098600US  
Application No.: 10/693,180  
Inventor(s): Shuji Sugimoto  
Title: STORAGE DEVICE CONTROLLING APPARATUS AND A CIRCUIT  
BOARD FOR THE SAME

### Enclosed Documents

Transmittal Sheet (1 page)  
Fee Transmittal (in duplicate)  
Preliminary Amendment (6 pages)  
Petition to Make Special (5 pages)  
5 Cited references (U.S. Patent Nos. 6,510,050; U.S. Patent Publication Nos. 2001/0042167;  
2003/0204671; 2002/0152339; Japanese Patent Publication No. 2002-351703)

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## FILING ACKNOWLEDGMENT

Mailing Date: July 22, 2004 Express Mail No. EV 530884839 US  
Atty. Docket No.: 16869K-098600US  
Application No.: 10/693,180  
Inventor(s): Shuji Sugimoto  
Title: STORAGE DEVICE CONTROLLING APPARATUS AND A CIRCUIT  
BOARD FOR THE SAME

### Enclosed Documents

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2003/0204671; 2002/0152339; Japanese Patent Publication No. 2002-351703)

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PTO/SB/21 (04-04)

**TRANSMITTAL  
FORM**

(to be used for all correspondence after initial filing)

<b>TRANSMITTAL FORM</b> (to be used for all correspondence after initial filing)	Application Number	10/693,180	
	Filing Date	October 24, 2003	
	First Named Inventor	Sugimoto, Shuji	
	Art Unit	2182	
	Examiner Name	Unassigned	
Total Number of Pages in This Submission	14	Attorney Docket Number	16869K-098600US

**ENCLOSURES (Check all that apply)**

<input checked="" type="checkbox"/> Fee Transmittal Form (in duplicate) <input type="checkbox"/> Fee Attached <input checked="" type="checkbox"/> Preliminary Amendment (6 pages) <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Response to Missing Parts/ Incomplete Application <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input checked="" type="checkbox"/> Petition to Make Special (5 pages) <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____	<input type="checkbox"/> After Allowance Communication to Technology Center (TC) <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): Return Postcard Cited References (5)
<b>Remarks</b> The Commissioner is authorized to charge any additional fees to Deposit Account 20-1430.		

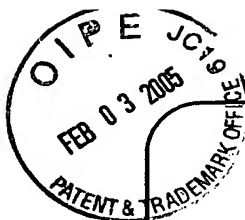
**SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT**

Firm or Individual name	Townsend and Townsend and Crew LLP Chun-Pok Leung	Reg. No. 41,405
Signature		
Date	July 22, 2004	

**CERTIFICATE OF TRANSMISSION/MAILING**

Express Mail Label: EV 530884839 US		
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Typed or printed name	Joy Salvador	
Signature		Date July 22, 2004

**EV530884839US**



# FEE TRANSMITTAL for FY 2004

Effective 10/01/2003. Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$) 130.00

## Complete if Known

Application Number	10/693,180
Filing Date	October 24, 2003
First Named Inventor	Sugimoto, Shuji
Examiner Name	Unassigned
Art Unit	2182
Attorney Docket No.	16869K-098600US

## METHOD OF PAYMENT (check all that apply)

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Townsend and Townsend and Crew LLP

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## FEE CALCULATION

## 1. BASIC FILING FEE

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1001	770	2001	385	Utility filing fee	
1002	340	2002	170	Design filing fee	
1003	530	2003	265	Plant filing fee	
1004	770	2004	385	Reissue filing fee	
1005	160	2005	80	Provisional filing fee	

SUBTOTAL (1)

(\$0.00)

## 2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

	Extra Claims	Fee from below	Fee Paid
Total Claims	-- =		
Independent Claims	-- =		
Multiple Dependent			

Large Entity		Small Entity		Fee Description
Fee Code	Fee (\$)	Fee Code	Fee (\$)	
1202	18	2202	9	Claims in excess of 20
1201	86	2201	43	Independent claims in excess of 3
1203	290	2203	145	Multiple dependent claim, if not paid
1204	86	2204	43	** Reissue independent claims over original patent
1205	18	2205	9	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2)

(\$0.00)

\*\*or number previously paid, if greater; For Reissues, see above

## FEE CALCULATION (continued)

## 3. ADDITIONAL FEES

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1051	130	2051	65	Surcharge - late filing fee or oath	
1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet.	
1053	130	1053	130	Non-English specification	
1812	2,520	1812	2,520	For filing a request for reexamination	
1804	920*	1804	920*	Requesting publication of SIR prior to Examiner action	
1805	1,840*	1805	1,840*	Requesting publication of SIR after Examiner action	
1251	110	2251	55	Extension for reply within first month	
1252	420	2252	210	Extension for reply within second month	
1253	950	2253	475	Extension for reply within third month	
1254	1,480	2254	740	Extension for reply within fourth month	
1255	2,010	2255	1,005	Extension for reply within fifth month	
1401	330	2401	165	Notice of Appeal	
1402	330	2402	165	Filing a brief in support of an appeal	
1403	290	2403	145	Request for oral hearing	
1451	1,510	1451	1,510	Petition to institute a public use proceeding	
1452	110	2452	55	Petition to revive - unavoidable	
1453	1,330	2453	665	Petition to revive - unintentional	
1501	1,330	2501	665	Utility issue fee (or reissue)	
1502	480	2502	240	Design issue fee	
1503	640	2503	320	Plant issue fee	
1460	130	1460	130	Petitions to the Commissioner	130
1807	50	1807	50	Petitions related to provisional applications	
1806	180	1806	180	Submission of Information Disclosure Stmt	
8021	40	8021	40	Recording each patent assignment per property (times number of properties)	
1809	770	2809	385	Filing a submission after final rejection (37 CFR § 1.129(a))	
1810	770	2810	385	For each additional invention to be examined (37 CFR § 1.129(b))	
1801	770	2801	385	Request for Continued Examination (RCE)	
1802	900	1802	900	Request for expedited examination of a design application	

Other fee (specify) \_\_\_\_\_

\*Reduced by Basic Filing Fee Paid SUBTOTAL (3)

(\$130.00)

## SUBMITTED BY

## Complete (if applicable)

Name (Print/Type)	Chun-Pok Leung	Registration No. (Attorney/Agent)	41,405	Telephone	650-326-2400
Signature				Date	July 22, 2004

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**PATENT**  
Attorney Docket No.: 16869K-098600US  
Client Ref. No.: 636/SM/mt

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of:

SHUJI SUGIMOTO

Application No.: 10/693,180

Filed: October 24, 2003

For: STORAGE DEVICE  
CONTROLLING APPARATUS  
AND A CIRCUIT BOARD FOR  
THE SAME

Customer No.: 20350

Examiner: Unassigned

Technology Center/Art Unit: 2182

Confirmation No.: 2603

**PETITION TO MAKE SPECIAL FOR  
NEW APPLICATION UNDER M.P.E.P.  
§ 708.02, VIII & 37 C.F.R. § 1.102(d)**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

This is a petition to make special the above-identified application under MPEP § 708.02, VIII & 37 C.F.R. § 1.102(d). The application has not received any examination by an Examiner.

(a) The Commissioner is authorized to charge the petition fee of \$130 under 37 C.F.R. § 1.17(i) and any other fees associated with this paper to Deposit Account 20-1430.

(b) All the claims are believed to be directed to a single invention. If the Office determines that all the claims presented are not obviously directed to a single invention, then Applicants will make an election without traverse as a prerequisite to the grant of special status.

(c) Pre-examination searches were made of U.S. issued patents, including a classification search, a key word search, and an online database search. The classification search was conducted on or around May 25, 2004 covering Classes 361 (subclasses 679, 685, 724, 748, 752, and 807) and 711 (subclass 114), by a professional search firm, Lacasse & Associates, LLC. The key word search was performed on the USPTO full-text database including published U.S. patent applications. The online database search was conducted using Delphion, Espacenet, and Google. The inventor further provided two references considered most closely related to the subject matter of the present application (see references #4 and #5 below), which were cited in the Information Disclosure Statement filed with the application on October 24, 2003.

(d) The following references, copies of which are attached herewith, are deemed most closely related to the subject matter encompassed by the claims:

- (1) U.S. Patent No. 6,510,050 B1;
- (2) U.S. Patent Publication No. 2001/0042167 A1;
- (3) U.S. Patent Publication No. 2003/0204671 A1;
- (4) U.S. Patent Publication No. 2002/0152339 A1; and
- (5) Japanese Patent Publication No. JP 2002-351703.

(e) Set forth below is a detailed discussion of references which points out with particularly how the claimed subject matter is distinguishable over the references.

A. Claimed Embodiments of the Present Invention

The claimed embodiments relate to a storage device controlling apparatus. In an exemplary embodiment as shown in Fig. 7, the apparatus comprises a circuit board 118 having an I/O processor 119, an inner connector 116, a file access processing section 111a, and an electric power connector 107.



Independent claim 1 recites a storage device controlling apparatus configured to be coupled to a storage device storing data and coupled to an information processing apparatus via a network. The apparatus is accommodated in a chassis, and comprises a circuit board accommodated in the chassis. The circuit board includes an I/O processor formed thereon, the I/O processor being configured to output to the storage device I/O requests corresponding to requests to input and output data from the information processing apparatus; an inner connector provided at an end to be located on an inner side of the chassis, at least the I/O processor and a power supply unit being connected through the inner connector; a file access processing section formed thereon, the file access processing section configured to accept the requests to input and output data on a file basis; and an electric power connector provided at an end to be located on an outer side of the chassis, electric power being supplied to the file access processing section through the electric power connector.

Independent claim 11 recites a circuit board for a storage device controlling apparatus coupled to a storage device storing data and coupled to an information processing apparatus via a network. The apparatus and the circuit board are accommodated in a chassis. The circuit board comprises an I/O processor formed thereon, the I/O processor being configured to output to the storage device I/O requests corresponding to requests to input and output data from the information processing apparatus; an inner connector provided at an end to be located on an inner side of the chassis, at least the I/O processor and a power supply unit being connected through the inner connector; a file access processing section formed thereon, the file access processing section configured to accept the requests to input and output data on a file basis; and an electric power connector provided at an end to be located on an outer side of the chassis, electric power being supplied to the file access processing section through the electric power connector.

One benefit that may be derived is that the storage device controlling apparatus can realize high-density mounting and low cost, put fewer burdens on users when expanding a system, and ensure the stable operations.

B. Discussion of the References

None of the following references disclose or suggest a circuit board that comprises an I/O processor formed thereon; an inner connector provided at an end to be located on an inner side of the chassis, at least the I/O processor and a power supply unit being connected through the inner connector; a file access processing section formed thereon; and an electric power connector provided at an end to be located on an outer side of the chassis.

1. U.S. Patent No. 6,510,050 B1

This reference discloses a high density packaging for multi-disk systems. A low profile substrate for packaging a computer system may include one or more sections of the substrate configured to hold a two-dimensional array of disk drives. The computer system 200 packaged within the substrate may be a single field replaceable unit. Circuitry for managing array drives is mounted onto the substrate and includes one or more processors 206, drive controllers 204, and drive interconnect components. The unit 200 can perform file services. The substrate 700 can also include power supplies that covert from the 48 volt signal provided on the edge connector 904. See column 5, lines 15-25; column 6, lines 46-49; column 6, line 65 to column 7, line 3; column 7, lines 61-63; column 9, lines 25-28; column 10, lines 62-64; column 11, lines 62-67; and column 12, lines 1-3.

2. U.S. Patent Publication No. 2001/0042167 A1

This reference relates to a method of storing data that includes a function board 10 that sends out stream data and controls writing to and reading data of a file from disk drive units D1-Dn. The function board 10 includes a disk controller 12 and an I/O controller 14. The disk drive units D1-Dn are connected to the function board 10 through an SCSI interface. See [0026]-[0028].

3. U.S. Patent Publication No. 2003/0204671 A1

This reference discloses a storage system wherein the DKS cabinet 180 is used to store the network channel and fibre channel adapter boards 1300. The network channel adapter 1100 is an interface controller connected via the file I/O interface to NAS clients 400.

The fibre channel adapter 1110 is an interface controller connected via the block I/O interface to SAN clients 500. See [0038], [0041], and [0047].

4. U.S. Patent Publication No. 2002/0152339 A1


This reference discloses a direct access storage system with combined block interface and file interface access. A storage system 10 includes a storage controller 14 and storage media 20 for reading data from or writing data to the storage media in response to SCSI, NFS, CIFS, or HTTP type of read/write requests. The storage controller includes an SCSI interface adaptor 26, an NFS interface adaptor 28, a CIFS interface adaptor 30, and a HTTP interface adaptor 32 for receiving the read/write requests and effecting the reading of data from or the writing of data to the storage media. See [0019]-[0021].

5. Japanese Patent Publication No. JP 2002-351703

This reference relates to a storage device that is easy to manage by effectively utilizing a drive capacity in the coexisting environment of the storage device of block form data and that of file form data. A block data input/output processing part 10-a converts block data and an address from a fiber channel port 50 to a data format inside of the storage device 1. A file data input/output processing part 10-b converts file data and an address from an Ethernet to the data format of the file system 20. The file system 20 indexes the address of a logical volume 35-b from the address of the system 20 and converts the file data into block data. A logical volume management part 30 indexes the address of a logical volume 35-a for writing the block data from the address outputted by a processing part 10-a, converts this address or the address from the file system 20 to a physical address and writes/reads data to a drive.

(f) In view of this petition, the Examiner is respectfully requested to issue a first Office Action at an early date.

Respectfully submitted,

  
Chun-Pok Leung  
Reg. No. 41,405

TOWNSEND and TOWNSEND and CREW LLP  
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